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Forest Health Protection and State Forestry Organizations

Management Guide for Larch Casebearer

Coleophora laricella (Hubner)
(Lepidoptera: Coleophoridae)

First reported in northern Idaho in 1957, the larch casebearer is the most important needle miner found in our Regions.

**Host:
Western
larch**

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Damage

Larch casebearer larvae can completely defoliate new foliage in early spring, especially during its fourth instar. Defoliated trees can put out another flush of needles but summer larvae may consume them.

Continued heavy defoliation causes appreciable radial growth loss, and after 5 years branch dieback begins, and trees gradually die.

Life History

Larch casebearers overwinter as third instars inside cases attached to spurs (buds). Larvae start feeding by May as new needles appear. A larva fastens its case to a needle with silk and then mines the interior as far as it can reach without actually leaving the case. After going through the fourth instar, larvae pupate inside their cases in late May. Moths emerge from the end of May to early July and lay eggs singly on needles.

Upon hatching, a larva bores through the eggshell directly into the needle. It mines the needle for about 2 months, and then lines a portion of it with silk. This case is chewed free from the rest of the needle. Both ends of the case are open and the larva feeds from one end of it from mid-August to late October. Larvae leave foliage before needle shed and secure cases to twigs for winter.

Identification

In the spring, tips of mined needles are straw-colored, have holes in them, and curl over or look wilted. Cases, made from hollowed needle segments and containing larvae, may be found on needles or twigs from the end of August through the following June. Cases are straw-colored and rectangular, becoming light gray and cylindrical-shaped during pupation.



The distinctive "cases" that help identify the larch casebearer.
Photo by Gyorgy Csoka

Key Points

- The larvae can completely defoliate new foliage in early spring.
- Damage identification is similar to, and is often confused with larch needle cast or larch needle blight.
- Larch sawfly damage is similar from a distance, but chewed needles distinguish the damage.
- Look for distinctive "cases" to identify larch casebearer.

Identification



Photo above shows defoliation and needle color change due to feeding of larvae. Photo by Jerald E. Dewey

They are less than one-fourth of an inch long. In June, when defoliated trees are disturbed, clouds of small, silvery moths will appear. Each female lays fifty to seventy eggs singly on needles from late May to

early July. Hatching larvae bore into, and mine needles.

Management

Direct Control. –The application of insecticides over landscapes is usually not practical, as western larch grows with other species in scattered patterns of stands, groups, and individual trees. However, high value stands or groups of western larch can be treated by aerial application with Fyfanon® ULV (malathion), an insecticide currently registered for use in Montana and Idaho. In addition, Idaho has current registered use of malathion ULV. Chemical insecticide registrations for insect control change frequently. Contact County, State, or Federal pesticide coordinators for updates on current insecticide registrations and application methods.

Silvicultural alternatives. –No silvicultural control strategies are available for larch casebearer, although some research has been done on silvicultural treatment. One study showed larch casebearer populations to increase on saplings where the space between larches increased. Other data suggest that above 4,000 ft. casebearer populations cannot remain dense enough to affect the radial growth of infested larch. Sudden temperature change and late frosts are more common at these higher elevations, which effect larch casebearer development.

Natural control. –Weather, needle diseases, native predators and parasites all help to reduce larch casebearer populations, or keep them in check. In particular, two European parasitic wasps, *Agathis pumila* (Ratz.) a braconid, and *Chrysocharis laricinellae* (Ratz.), a eulophid, were introduced into western forests in the early 1960's, and have since become well established and very successful in reducing larch casebearer populations. Random samples indicate that either wasp can parasitize over 90% of the larch casebearer population in an infested area.

**In 1999,
approximately
14,000 acres
were defoliated
across northern
Idaho. Those
infested acres
declined to only
a few hundred in
2000.**

Other Reading

Forest Health Protection and State Forestry Organizations

Assistance on State And Private Lands

Montana: (406) 542-4300

Idaho: (208) 769-1525

Utah: (801) 538-5211

Nevada: (775) 684-2513

Wyoming: (307) 777-5659

N.Dakota: (701) 228-5422

Assistance on Federal Lands

US Forest Service
Region One

Missoula: (406) 329-3605
Coeur d'Alene: (208) 765-7342

US Forest Service
Region Four

Ogden: (801) 476-9720
Boise: (208) 373-4227

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